



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------|------------------|
| 10/647,302 | 08/26/2003 | Masafumi Sakaguchi | 116905 | 2612 |
| 25944 | 7590 | 07/14/2005 | | |
| OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320 | | | EXAMINER CRUZ, MAGDA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2851 | |

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/647,302

Applicant(s)

SAKAGUCHI ET AL.

Examiner

Magda Cruz

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply.

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2005.
 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-7 is/are rejected.
 7) ☒ Claim(s) 3 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 26 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date 2/7/05 & 4/22/05
 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
 5) ☐ Notice of Informal Patent Application (PTO-152)
 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The amendment filed 04/22/2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "each microlens may thus have a substantially four-sided shape, with adjacent sides within a microlens being perpendicular to each other" (paragraph 0041, lines 3-5).

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 7 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The "adjacent sides within a microlens being perpendicular to each other" is not described in the original specification, since the adjacent sides of microlenses (element 120a) appear to be parallel to each other.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2 and 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al. in view of Assadi et al.

Hashimoto et al. (US Patent Number 6,335,828 B1) discloses:

- Regarding claim 1, a Fresnel lens portion (Figure 1, element 101) having Fresnel lens components on the light-emitting surface thereof (i.e. light emitting side of element 101); and a microlens array portion (Figure 1, element 102) disposed at a light-emitting surface side of the Fresnel lens portion (i.e. light emitting side of element 101) and having a plurality of microlenses on a light-incident surface (i.e. right side of element 102), the light-incident surface (i.e. right side of the microlenses, element 102) defining a horizontal direction and a perpendicular direction (column 2, lines 45-47); the perpendicular direction (i.e. V direction) being perpendicular (see Figure 3a, 4a and 5a) to the horizontal direction (i.e. H direction).
- Regarding claim 2, microlenses having larger horizontal and perpendicular array pitches (column 5, lines 5-8) than oblique array pitches at an angle

of 45° (i.e. by changing the pitches in the H and V directions, the field angle can be easily set up).

- Regarding claim 4, a diffusing sheet (Figure 1, element 105) that is disposed at a light-exiting surface side of the microlens array portion (i.e. left side of element 102).
- Regarding claim 5, a light shield member (Figure 1, element 103) that is disposed between the microlens array portion (Figure 1, element 102) and the diffusing sheet (Figure 1, element 105), the light shield member (Figure 1, element 103) having apertures (Figure 1, element 104) near focal points of the microlenses (column 4, lines 7-10).
- Regarding claim 6, a rear projector (column 1, lines 5-6), comprising an optical projecting unit (i.e. means for projecting the image in a rear projection type television) and the transmissive screen (see Figure 1).
- Regarding claim 7, a plurality of microlenses each having a substantially four-sided shape (i.e. see the microlenses shown in Figure 3a).

Hashimoto et al. teaches the salient features of the present invention, as explained above, except (regarding claim 1) a microlenses of the microlens array portion being arrayed in a first direction and a second direction, with adjacent microlenses having common side, the first direction being rotated by 45° with respect to the horizontal direction, the second direction being perpendicular to the first direction.

Assadi et al. (US Patent Number 6,297,540 B1) discloses microlenses (Figure 1, element 12) of the microlens array portion (Figure 1, element 10) being arrayed in a first

direction and a second direction (i.e. directions defined by the channels; Figure 1, element 14), with adjacent microlenses having common side (i.e. side of the microlens in contact with element 14), the first direction being rotated by 45° with respect to the horizontal direction, the second direction being perpendicular to the first direction (i.e. if we define a horizontal direction as a X axis, and a vertical direction a Y axis, and then rotate said axis 45°, we can say that the first direction and the second direction are perpendicular and had been rotated by 45°).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the microlens array disclosed by Hashimoto et al. in substitution with the array in the first and second direction disclosed by Assadi et al.'s invention, for the purpose of increasing the fill factor of photosensitive devices (Assadi et al., column 1, lines 6-7).

6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al. in view of Assadi et al. as applied to claims 1-2 and 4-7 above, and further in view of Karasawa et al.

Hashimoto et al. (US Patent Number 6,335,828 B1) in combination with Assadi et al. (US Patent Number 6,297,540 B1) teaches the salient features of the present invention, as explained above, except a light diffusing portion that is disposed between the Fresnel lens portion and the microlens array portion.

Karasawa et al. (US 2004/0070845 A1) discloses a light diffusing portion (Figure 1, element 130) that is disposed between a Fresnel lens portion (Figure 1, element 110) and a microlens array portion (Figure 1, element 120).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to position the light diffusion portion between the microlens array portion and the Fresnel lens portion of Hashimoto et al. as taught by Karasawa et al. for the purpose of having a light transmissive screen with uniform diffusion over the entire screen (Karasawa et al.; page 1, paragraph 0011, lines 2-3).

Response to Arguments

7. Applicant's arguments filed on 04/22/2005 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Magee (US Patent Number 5,644,431) discloses a directional image transmission sheet.

Magee (US Patent Number 5,933,276) teaches an aberration-free directional image sheet.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magda Cruz whose telephone number is (571) 272-2114. The examiner can normally be reached on Monday through Thursday 8:00-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Magda Cruz
Patent Examiner
July 8, 2005


JUDY NGUYEN
SUPERVISORY PATENT EXAMINER